

CLAIMS

1. A copolymer latex for non-contact coating obtained by emulsion polymerization of a monomer consisting of an aliphatic conjugated diene monomer (a) in an amount from 23 to 58% by mass, an ethylenic unsaturated carboxylic acid monomer (b) in an amount from 0.1 to 7% by mass, a vinyl cyanide compound (c) in an amount from 5 to 40% by mass, and other monomer (d) capable of being copolymerized with said monomers (a), (b) and (c) in an amount from 0 to 71.9% by mass (provided that the total amount of said monomers (a), (b), (c) and (d) is 100% by mass), characterized in that polymer particles contained in said latex have an average particle diameter of from 50 to 150 nm.

2. A copolymer latex for non-contact coating obtained by copolymerization of a monomer consisting of an aliphatic conjugated diene monomer (a) in an amount from 20 to 80% by mass, an ethylenic unsaturated carboxylic acid monomer (b) in an amount from 0.5 to 10% by mass, and other monomer (d) capable of being copolymerized with said monomers in an amount from 20 to 79.5% by mass (provided that the total amount of said monomers (a), (b) and (d) is 100% by mass), characterized in that said copolymer has at least two glass transition points in a range from -100 to 50°C and has a differential calorie curve obtained with a differential scanning calorimeter, in which a difference ΔT between the lowest temperature T1 and the highest temperature T2 in a transition region is 5°C or more.

3. The copolymer latex for non-contact coating according to Claim 2, wherein said copolymer consists of (P1) a copolymer part obtained by polymerization of a monomer (m1) consisting of an aliphatic conjugated diene monomer (a1) in an amount from 25 to 100% by mass, an ethylenic unsaturated carboxylic acid monomer (b1) in an amount from 0 to 10% by mass, and other monomer (d1) capable of being copolymerized with said monomers

(a1) and (b1) in an amount from 0 to 75% by mass (provided that the total amount of said monomers (a1), (b1) and (d1) is 100% by mass) and having a glass transition point of from -100 to 0°C, and (P2) a copolymer part obtained by polymerization of a monomer (m2) consisting of an aliphatic conjugated diene monomer (a2) in an amount from 10 to 60% by mass, an ethylenic unsaturated carboxylic acid monomer (b2) in an amount from 0.5 to 30% by mass, and other monomer (d2) capable of being copolymerized with said monomers (a2) and (b2) in an amount from 10 to 89.5% by mass (provided that the total amount of said monomers (a2), (b2) and (d2) is 100% by mass) and having a glass transition point of from -20 to 50°C.

4. A non-contact coating composition for paper having a viscosity of from 50 to 1,500 mPa·s and a dynamic surface tension of from 25 to 65 mN/m at a surface lifetime of 10 ms.

5. The non-contact coating composition for paper according to Claim 4, wherein said composition further comprises a fine particle clay containing a component having a particle diameter of less than 2 μm in an amount from 95 to 99% by mass and a high aspect clay containing a component having a particle diameter of less than 2 μm in an amount from 80 to 89% by mass; said composition comprises a pigment containing 40% by mass or more of said fine particle clay and said high aspect clay based on 100% by mass of the total of said pigment, a copolymer latex and a wetting agent; and a solids content of said copolymer latex is from 5 to 30 parts by mass and the content of said wetting agent is from 0.01 to 2 parts by mass based on 100 parts by mass of the total of said pigment.

6. The non-contact coating composition for paper according to Claim 5, wherein said copolymer latex is obtained by copolymerization of an aliphatic conjugated diene monomer (a) in an amount from 30 to 60% by mass, an ethylenic unsaturated carboxylic acid monomer (b) in an amount from 0.1 to 7% by mass, and other monomer (d) capable of being copolymerized with said

monomers in an amount from 33 to 69.9% by mass (provided that the total amount of said monomers (a), (b) and (d) is 100% by mass).

7. A process for producing coated paper comprising a coating step of coating a non-contact coating composition for paper comprising said copolymer latex for non-contact coating as defined in one of Claims 1 to 3 or said non-contact coating composition for paper as defined in one of Claims 4 to 6 on a surface of base paper at a coating speed of 600 to 2,800 m/min by a non-contact coating method; and a drying step of drying a coated film.

8. A process for producing coated paper comprising a step of coating a non-contact coating composition for paper comprising a pigment on a surface of base paper by a non-contact coating method, characterized in that said base paper has a center line average roughness of 3 μm or less in a frequency region of a spatial frequency of 25 (1/mm) or less and a center line average roughness of 0.2 μm or more in a frequency region of a spatial frequency of 25 (1/mm) or more.

9. The process for producing coated paper according to Claim 8, wherein a coating speed is from 600 to 2,800 m/min.

10. The process for producing coated paper according to Claim 8 or 9, wherein said non-contact coating composition for paper further comprises a copolymer latex and a wetting agent, and a solids content of said copolymer latex is from 5 to 30 parts by mass and a content of said wetting agent is from 0.01 to 2 parts by mass based on 100 parts by mass of the total of said pigment.

11. The process for producing coated paper according to Claims 8 to 10, wherein said pigment consist of a fine particle clay containing a component having a particle diameter of less than 2 μm in an amount from 95 to 99% by mass, a high aspect clay containing a component having a particle diameter of less than 2 μm in an amount from 80 to 89% by mass, and other

pigment, and a content ratio of said fine particle clay and said high aspect clay is from 1/3 to 5/1, and a content of said other pigment is 60% by mass or less based on 100% by mass of the total of said pigment.

12. The process for producing coated paper according to Claims 7 to 11, wherein said non-contact coating method is a method selected from a curtain coating method and a spray coating method.

13. A coated paper characterized in that it is obtained by said process as defined in Claims 7 to 12.